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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/042,681	03/12/1998	AKIKO ISHIDA	MAT-5870	5427

7590

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EXAMINER

CREPEAU, JONATHAN

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 06/27/2002

27

Please find below and/or attached an Office communication concerning this application or proceeding.

MF=27

**Office Action Summary**

Application No.

09/042,681

Applicant(s)

ISHIDA ET AL.

Examiner

Jonathan S. Crepeau

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 May 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☒ Interview Summary (PTO-413) Paper No(s). 27.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.                      6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action is responsive to the RCE filed on May 13, 2002, and addresses claims 16-25. The claims are newly rejected under 35 USC §102 and §103. This action is non-final.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 16-18 and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 8-321301. Regarding claims 16 and 22, the reference is directed to a lithium secondary battery (see abstract). Regarding claims 22 and 25, the positive electrode comprises a lithium transition metal oxide such as  $\text{LiCoO}_2$  which would be positive during discharging of the battery (see paragraph [0011] of the machine translation). Regarding claim 22, the battery contains a microporous polymer film separator and a nonaqueous solution dissolving a lithium salt (see paragraph [0018]). Regarding claim 16, the electrolyte may also be a gel polymer electrolyte (see paragraph [0012]). Regarding claims 16 and 22, the negative electrode contains graphite, which would be negative during discharging of the battery (see paragraph [0016]). The negative electrode further comprises ceramic particles not relating to charge or discharge of the battery.

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Regarding claims 17, 18, 23, and 24, the ceramic material comprises  $\text{Al}_2\text{O}_3$  (see paragraph [0016]). Regarding claims 16 and 22, the content of the alumina is 1 part by weight in 95 parts by weight of graphite (i.e., 1.05 parts in 100 parts), and the average particle size of the alumina is 3 microns (see paragraph [0016]). The electrolyte does not comprise the alumina particles.

Thus, the instant claims are anticipated.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 8-321301 in view of Andrei et al (U.S. Patent 5,756,231).

The Japanese reference does not expressly teach that one of the positive and negative electrode comprises the polymer electrolyte.

The patent of Andrei et al. is directed to composite cathodes (i.e., positive electrodes) comprising polymer electrolytes for lithium batteries (see abstract). The active cathode material comprises a lithium transition metal oxide (see col. 4, line 67).

Therefore, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the disclosure of Andrei et al. would provide

sufficient motivation to use a composite cathode comprising a polymer electrolyte in the battery of the Japanese reference. In column 3, line 60 et seq., Andrei et al. teach that their battery has a "particularly high effective capacitance" and that the active cathode particles advantageously "do not tend to aggregate." Accordingly, the artisan would be sufficiently motivated to use the composite cathode comprising a polymer electrolyte in the battery of the Japanese reference.

### *Conclusion*


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (703) 305-0051. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (703) 308-2383. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900. Additionally, documents may be faxed to (703) 305-5408 or (703) 305-5433.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

JSC

June 19, 2002

  
Patrick Ryan  
Supervisory Patent Examiner  
Technology Center 1700